



Capital Projects and Roadway Structures Division

Council Transportation Committee
Tuesday, September 27, 2011



Presentation Overview

- Division Mission
- Organization
- Core Business Overview
- Performance Measures



Dexter



East Marginal Way



15th Ave



Division Mission

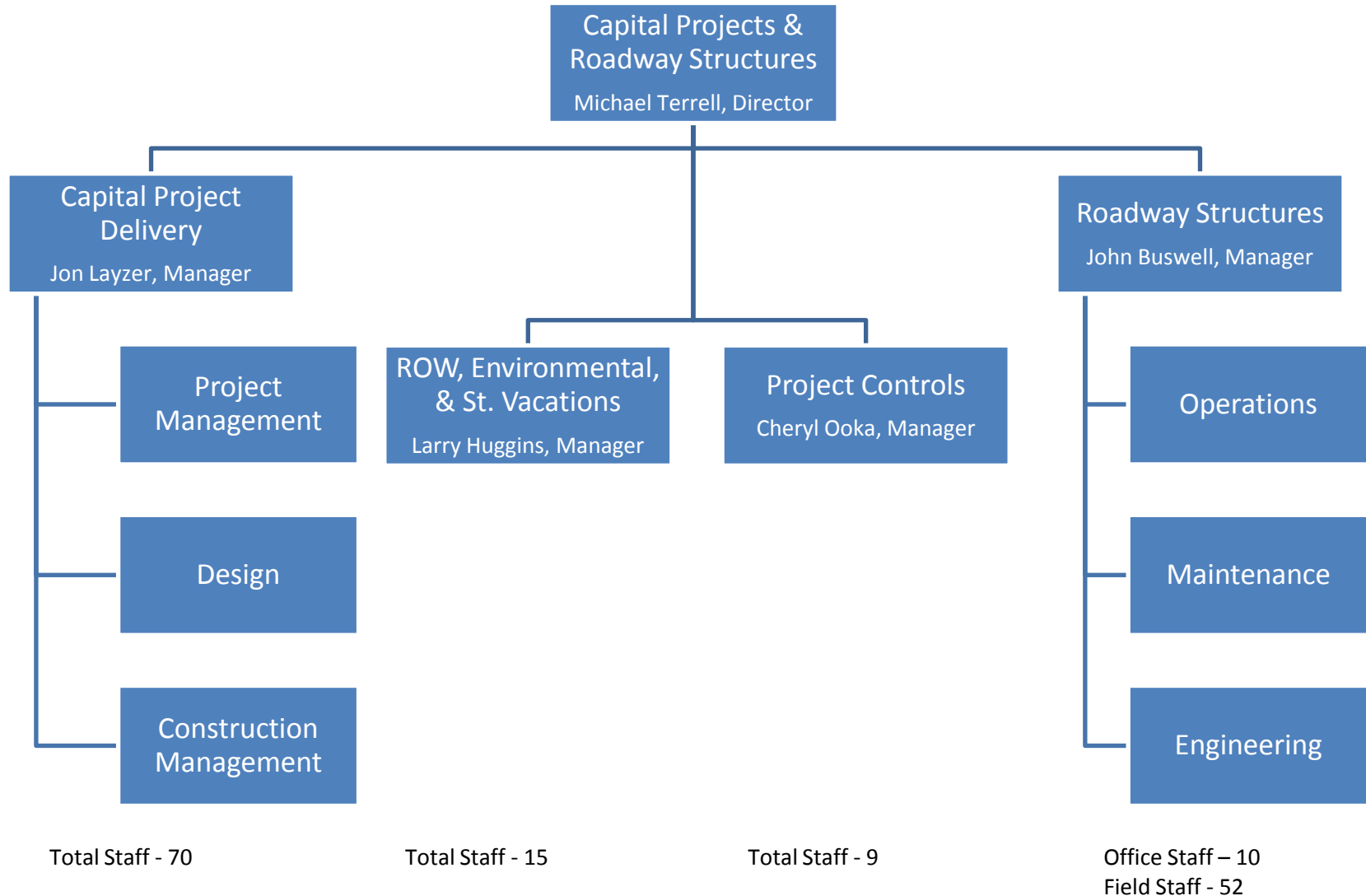
- Design, construct, maintain & operate safe and reliable transportation facilities
 - Capital Projects - Developing capital projects that are cost effective and meet the needs of Seattle's citizens
 - Roadway Structures - Preserve existing infrastructure, manage capital improvements, operate and maintain bridges, retaining walls, stairways and areaways
 - Get the most from our transportation investment dollars



Chief Sealth Trail



Organizational Chart

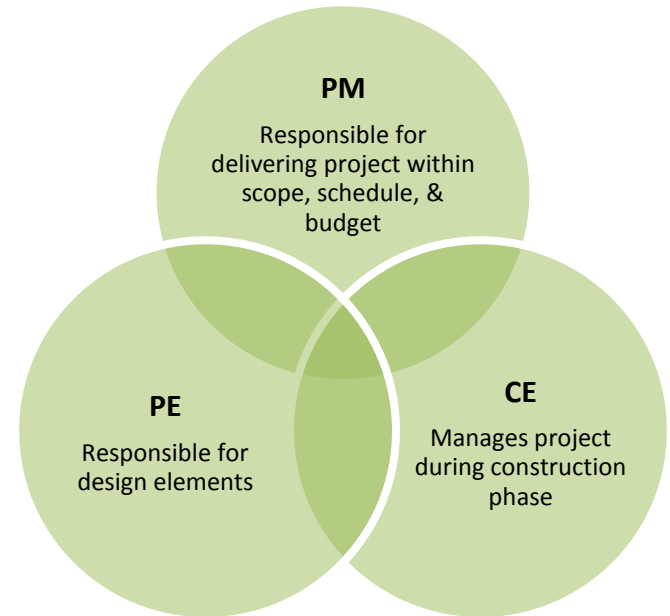




Capital Project Delivery

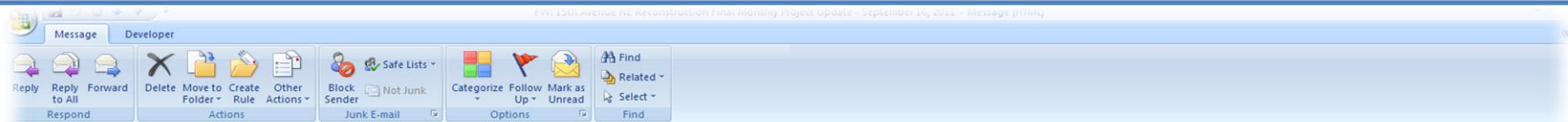
- Ownership of CIP projects from initiation through construction
- Focus on projects with public works contracts
- SDOT asset owners as “clients”
- Project Management Plans
- Project Delivery Manual/PD TOMs
- Interdepartmental coordination

The Project Triad – PM, PE, and CE
Triad works together in a matrix relationship, sharing overall responsibility for the success of the project.





Constituent Feedback



From: Patti Loesche [mailto:loes@uw.edu]

Sent: Friday, September 16, 2011 7:36 PM

To: DOT_15thAveNE

Subject: Re: 15th Avenue NE Reconstruction Final Monthly Project Update - September 16, 2011

THANK YOU. As much as I have come to dread construction in the U District over the years, I can't say enough good things about how you conducted this huge and complicated project. Communication was excellent. Work areas were well defined and as considerate as possible to the users in the area. The workers I passed by were unfailingly pleasant. Work got done fast. You did what you said you would do and when you said you would do it. If only all government projects were like this.

Patti Loesche
Psychology, UW



- | PROJECT RISK MANAGEMENT PLAN: MERCER CORRIDOR PROJECT | | | | | | | | | | | | | | | | |
|---|------|--|-----------------------|--|--|---|----------------------|-------------|----------|-------------|-----------------------|------------------|-----------------|-------------------|--|--|
| Identification | | | | | | | Qualitative Analysis | | | | Quantitative Analysis | | | Response Strategy | | |
| Status | ID # | Date Identified | Functional Assignment | Threat/Opportunity Event | SMART Column | Risk Trigger | Type | Probability | Impact | Risk Matrix | Probability (%) | Impact (\$ in M) | Effect (months) | Strategy | Response Actions (detail) | |
| Active | C1 | 11/1/2007

Choose one
Initiation
Design | PM | Maintenance of Street Car Service During Construction | Street car service will be in place along Fairview, Valley, Westlake and Terry prior to construction. The base assumes the service will be shut down in the work area during construction. Scenarios:
A. Service remains fully operational to the maximum extent possible during construction. Affects sequencing of work, crossings would need to be made at night. Must remain at least 10' away from energized line. Weekend work for under grounding. Significant night work (although production rate may increase). Higher cost due to inefficiencies | A. Failure during installation of utilities under tracks B. Streetcar systems gets damaged | Schedule | Moderate | High | | | | 4 | Mitigation | A. To complete the utility installation and repair Streetcar system.
B. Assess damage to Streetcar system and develop plan to fix system. | |
| Active | C2 | 11/1/2007

Choose one
Initiation
Design | PM | METRO does not remove trolley lines on Fairview as agreed in MOA | METRO has agreed to remove the Trolley lines on Fairview beginning October 2nd, 2010. If METRO does not remove the Trolley lines as agreed to the contractor, the project is delayed. METRO has agreed to the contractor's request. | | Schedule | Low | Low | | 12% | 0.25 | 1 | Mitigation | Work weekends and nights and use rapid cure concrete in this vicinity | |
| Active | C3 | 11/1/2007

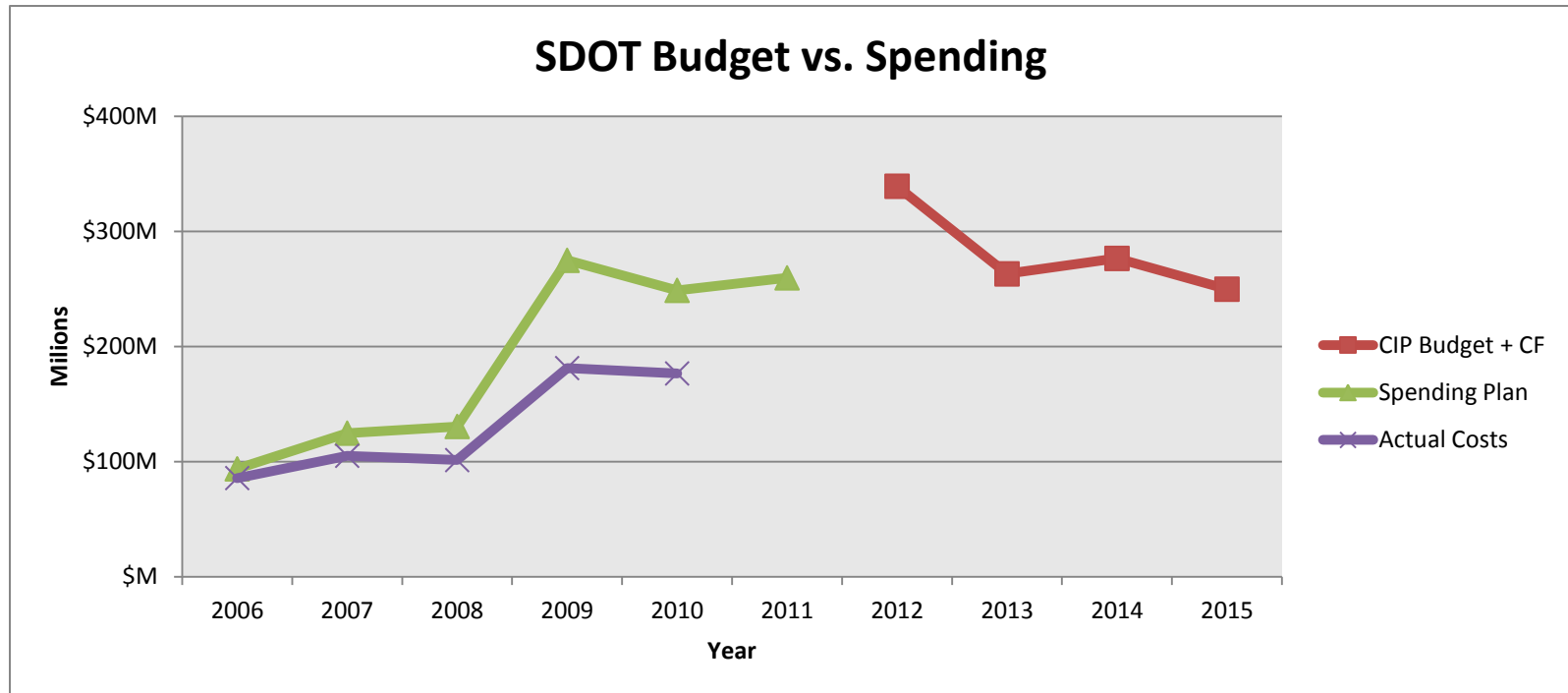
Choose one
Initiation
Design | PM | Other Traffic Control Issues | Traffic Control measures, other than those anticipated by the contract, will be necessary to ensure business, local, and pedestrian access as well as traffic flow. Additionally, WSDOT could require further traffic control measures than currently anticipated. Reopening of Dexter could create situation where additional traffic control measures are required, depending upon SDOT timing of project. 9th Avenue work will require additional local/business | Complaints from Public, Stakeholders, and/or Business. (Additional information on the risk that is Specific, Measurable, Achievable, Realistic and Time | Schedule | High | Very Low | | 50% | 0.10 | 0 | Mitigation | Close coordination with Public, Stakeholders, and Business. | |



- | | A | B | C | D | E | F | G | H | I | J | K | L | M |
|----|----|------------------------------|--|--|-----------------------|--------------|--------------|-----------------|---------------|---|---|---|---|
| | | Project or Subproject Number | Project | PM/PE | Project Cost Estimate | Phase | Scope Status | Schedule Status | Budget Status | | | | |
| 1 | 5 | TC36544039 | AAC 2012 - N/NW 85th St | Jessica Murphy
684-0178
J. Hammersmith | \$12,600,000 | Construction | Green | Green | Green | <ul style="list-style-type: none"> The contract was awarded A project informational meeting was scheduled for 9/26 Pertwet was chosen as the design consultant Signal evaluation of delays is in progress The MOA for the volunteer work group is in progress Electrical scope elements are being developed Preliminary traffic model is being developed However, the traffic impact study is not yet completed | | | |
| 6 | 6 | TC36544038 | AAC 2012 - Rainier Corridor | Jeff Bertram
684-5194
Esther Chinn | \$4,200,000 | Construction | Green | Green | Green | <ul style="list-style-type: none"> Phase 1 construction is scheduled for 10/1 Phase 2 grinding is scheduled for 10/1 Phase 4 construction is scheduled for 10/1 Phase 3 grinding is scheduled for 10/1 Striping for Phases 1-3 is scheduled for 10/1 | | | |
| 7 | 7 | TC32490016 | Bridge Painting Program- Ballard Bridge Bascule | Ron Scharf
684-5194
Ehlers | | Construction | Green | Green | Green | <ul style="list-style-type: none"> NTP was issued on 8/6/11 The clock is running but no work has started yet Most of the other significant issues are being resolved | | | |
| 8 | 8 | TC36685004 | Bridge Rehabilitation and Replacement - E Marginal Way @ Horton St | Michael Lee
684-3514
Vincent Mi | \$37,748,810 | Construction | Green | Yellow | Green | <ul style="list-style-type: none"> What may become an issue is the conflict with the seismic upgrade Mainspan plans have been developed Meeting held on 9/8/11 Over ARGO project to provide funding for the project Change Order #4 (LW) is in progress Issues Deviation memo addressed to handle the increased load capacity necessary in the future; a meeting will be held BNSF hasn't responded to the request for a meeting New date for bridge completion is 10/1 deviation on some of the items | | | |
| 9 | 9 | TC36685006 | Bridge Rehabilitation and Replacement - E Marginal Way @ Horton St | Terry Plumb
733-9053
Erich Ellis | \$2,485,342 | Construction | Green | Green | Green | <ul style="list-style-type: none"> The Notice of Substantial Completion has been issued Detour route was returned to normal Final inspection held on 9/11 | | | |
| 10 | 10 | TC36685005 | Bridge Rehabilitation and Replacement - NE 45th St | Michael Ward
684-6493 | \$11,763,783 | Construction | Green | Green | Green | <ul style="list-style-type: none"> SPU has reimbursed SDC for the project Issues SPU has not accepted the project as complete built by our contractor. Follow-up on small project items | | | |

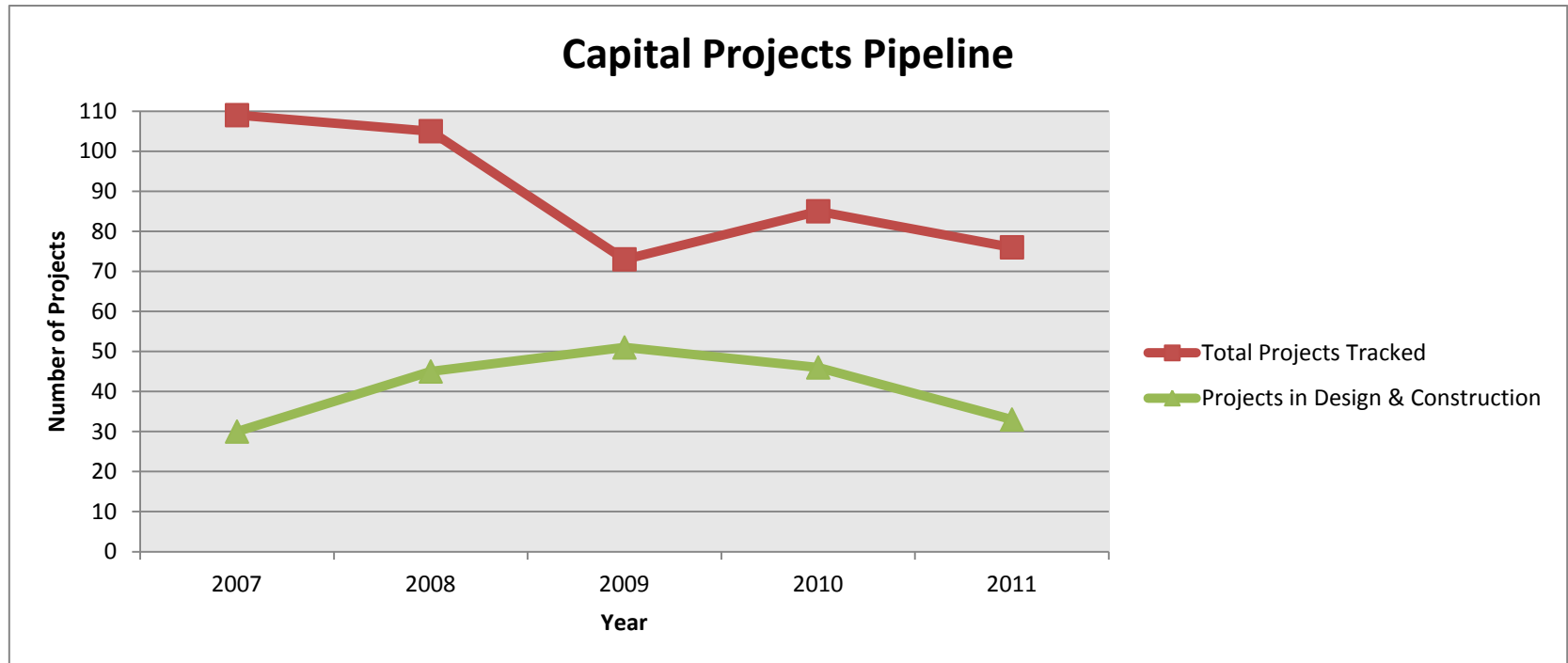


Capital Projects





Total Projects in the Pipeline



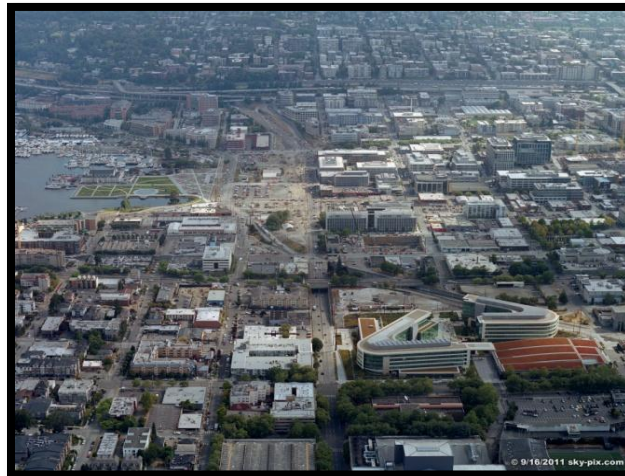
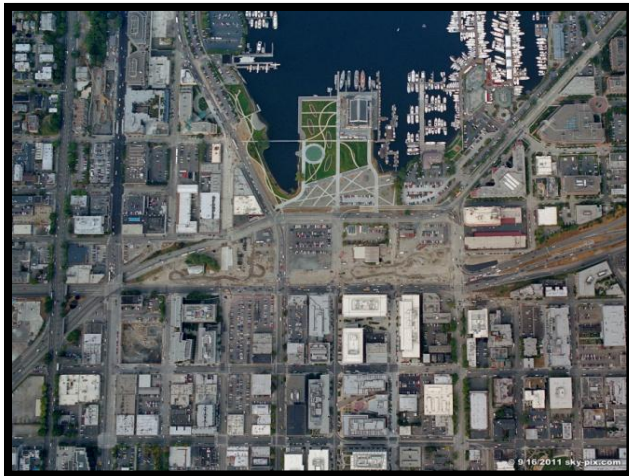


Large Capital Projects

Spokane Street Viaduct – 4th Avenue Ramp and Widening



Mercer Corridor





Arterial Asphalt & Concrete Program



4th Ave Reconstruction as seen from the Yesler Overpass
1937



4th Ave Reconstruction as seen from the Yesler Overpass
Improvement of
4th AVE. and 4th AVE. S.
Paving etc.
2010

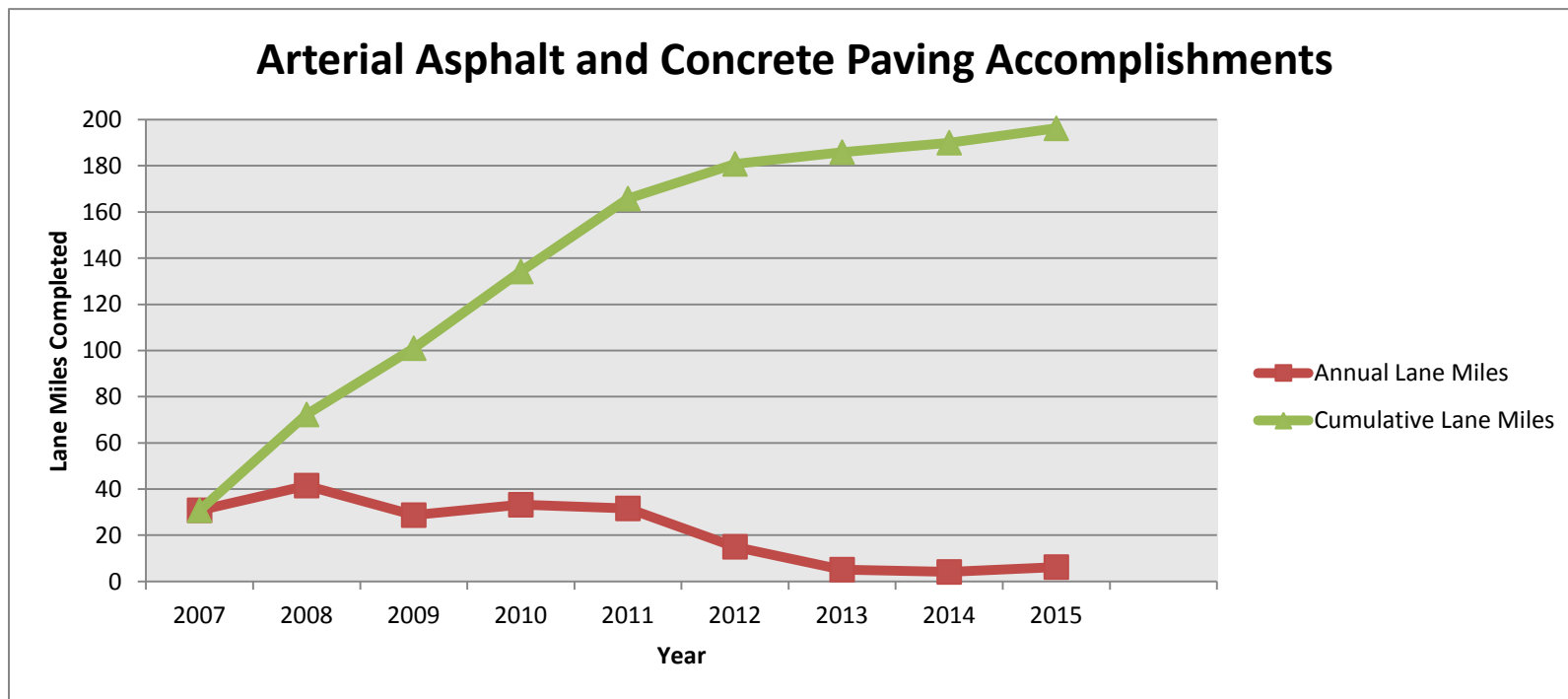


Arterial Asphalt & Concrete Plan





Arterial Asphalt & Concrete Accomplishments



	2007	2008	2009	2010	2011	2012	2013	2014	2015
Annual Lane Miles	30.8	41.5	28.7	33.2	31.6	15.0	5.1	4.1	6.2
Cumulative Lane Miles	30.8	72.3	101.0	134.2	165.8	180.8	185.9	190.0	196.2



Complete Streets

NE 55th St



Dexter



Columbian





Bridge Rehabilitation and Replacement

East Duwamish Waterway

- BTG Goal: 3 – 5 bridges



NE 45th



- Current Plan: 6+ bridges:
 - East Duwamish Waterway
 - Jose Rizal
 - NE 45th St Viaduct
 - 15th Ave NE
 - East Marginal @ Horton
 - Airport Way over Argo



Bridge Seismic Retrofit

- BTG Goal: 5 bridges



Albro over Airport Way

Albro over Airport Way



- Current Plan: 7 bridges:
 - Albro over Airport Way
 - Fauntleroy Expressway
 - King Street Station Area Bridges (2nd Ave Extension, S Jackson St, 4th Ave S, and Airport Way S)
 - Ballard



Transit Corridor Projects

- Metro RapidRide Corridors
- City priority corridor treatments



TPCI - Rainier

RAPIDRIDE

C Line





Trail Projects

- Duwamish Trail
- Chief Sealth Trail
- Ship Canal Trail
- Mountains to Sound Trail
- West Thomas Overpass
- Burke Gilman Trail



Chief Sealth Trail



Mountains to Sound Trail



Ship Canal Trail



Other Programs and Projects

- Greenwood and Linden Avenue reconstruction
- Intelligent Transportation Systems (ITS)
- Hazard Mitigation – Landslides and Areaways
- Bridge Painting/Preservation



Linden Ave



ITS – First Ave

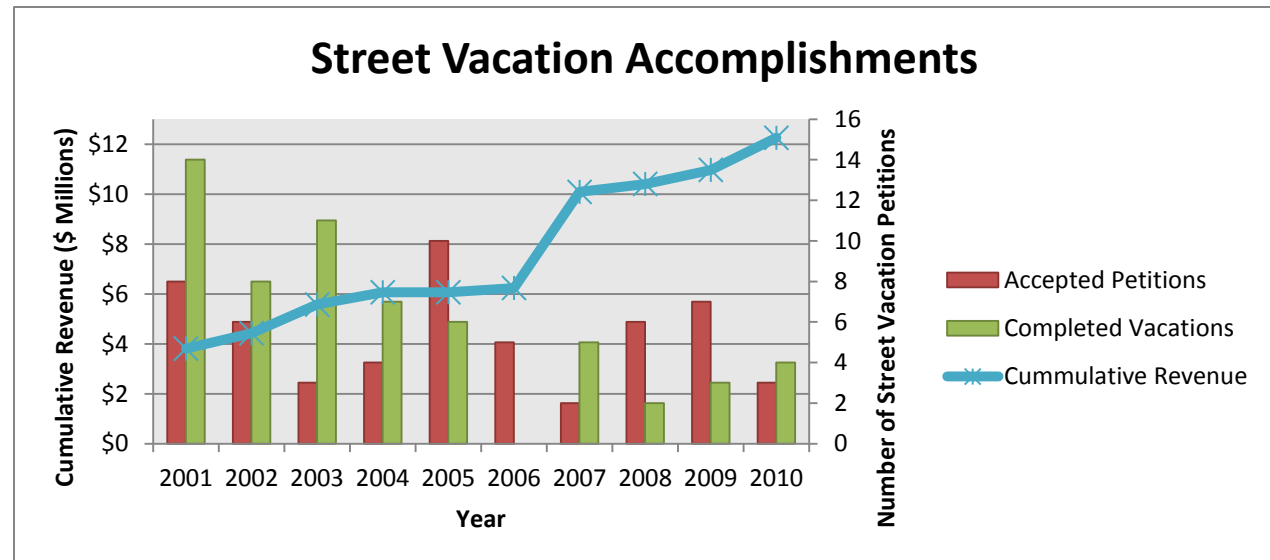


Bridge Painting - Ballard Approaches



Capital Projects Department-wide Services

- City standard plans and specifications
- Consultant contracting
- Environmental review and permitting
- Environmental Management System (GreenDOT)
- Right-of-way acquisition, dedications
- Street Vacations





Roadway Structures

- Structures Engineering
- Structures Maintenance
- Bridge Operations
- Emergency Response



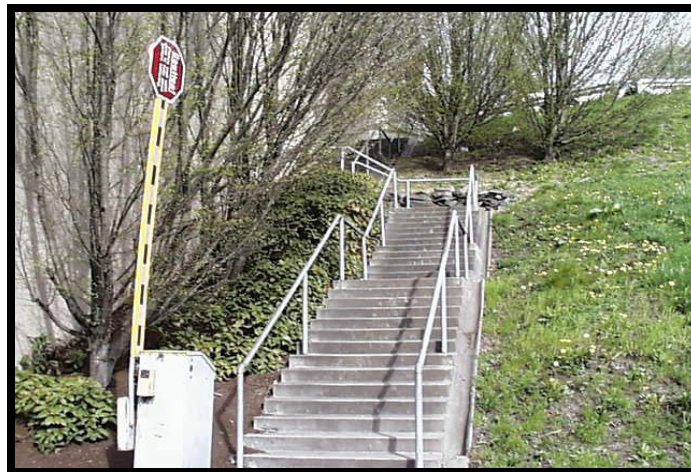


Assets Managed \$3.7 Billion

95 Bridges - \$2,222,525,400



507 Stairway - \$62,452,250



587 Retaining Walls -
\$653,330,400

AW Seawall - \$600,000,000



236 Areaways - \$167,749,500



Structures Engineering

- Structure Inspection
- Maintenance Engineering Design
- Structure Inventory Records System
- Structure Capital Projects Oversight
- Emergency Response
- Plan Review



Ultrasonic Inspection



Fauntleroy Express Way



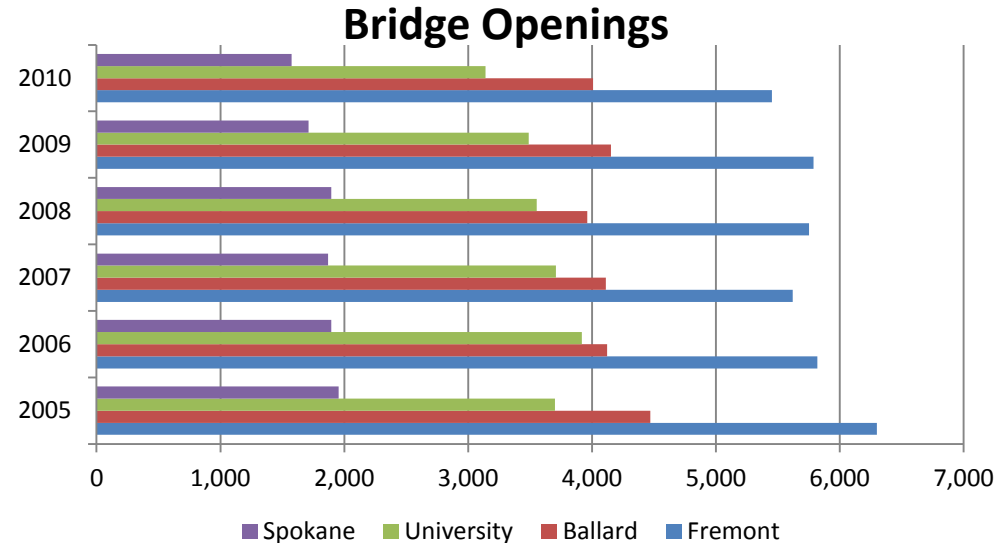
Structures Maintenance

- Timber & Concrete
 - Perform concrete and timber repairs for bridges, seawalls, retaining walls, stairways, areaway and other various infrastructure.
- Mechanics
 - Repairs involve a wide range of skills including welding, hydraulics, heat straightening and machinery maintenance.
- Electricians
 - Perform complex maintenance, troubleshooting and repair on electrical control systems



Bridge Operations

- Responsible for the opening of 3 bascule bridges and 1 swing bridge on a 24/7 basis
 - Ballard Bridge
 - Fremont Bridge
 - University Bridge
 - Spokane St Swing Bridge
- 14,174 openings in 2010





Emergency Response

- Post Earthquake Bridge Inspection
- Accident Damage to Structures
- Movable Bridges
- Structural Expertise to other agencies



Magnolia Slide



Bridge Condition

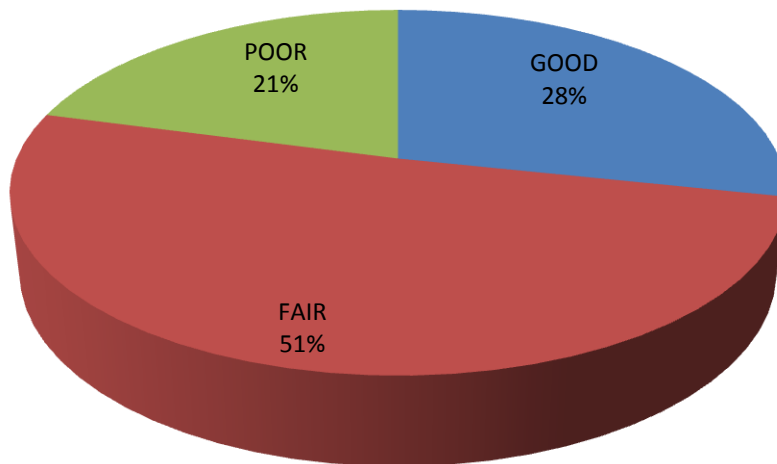
Year	Sufficiency Rating
2006	69.63
2007	67.24
2008	66.65
2009	68.53
2010	66.69

An aging inventory results in a declining sufficiency rating

FHWA Condition Categories

- 42 bridges are functionally obsolete
- 9 bridges are structurally deficient

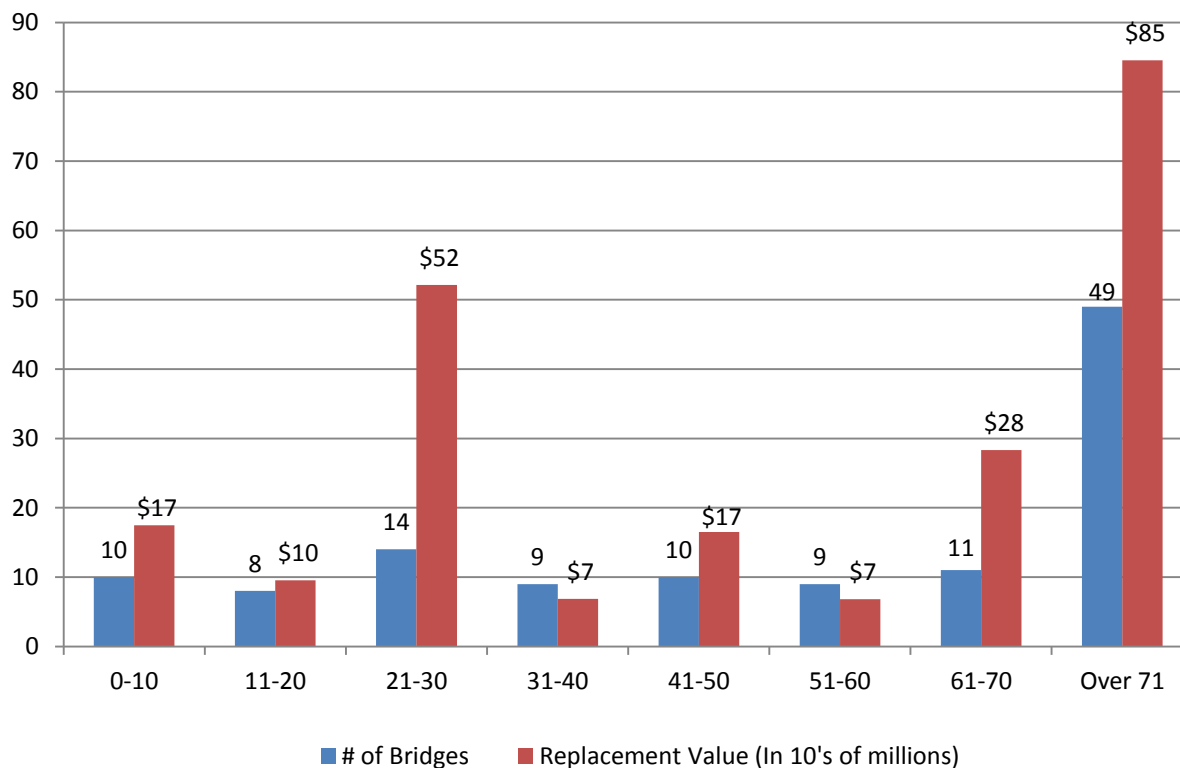
Bridge Condition





Future Replacement Liability

Bridge by Age & Replacement Value
(in 10's of millions)



60 bridges over 60 years old with a replacement value over \$1.1 B

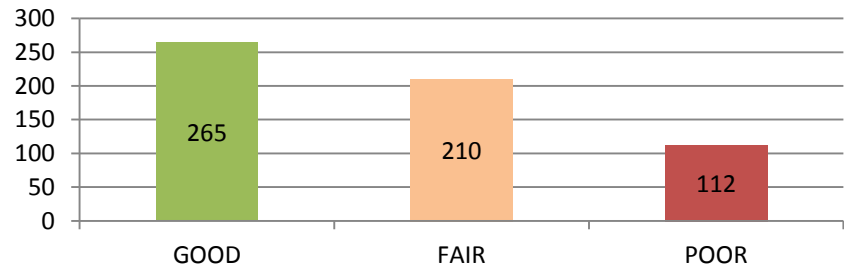


Retaining Walls & Stairways

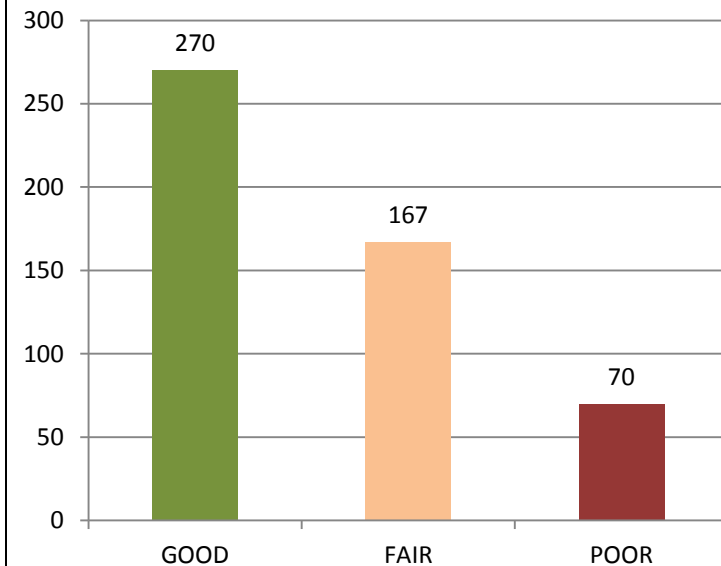
Retaining Wall inspection cycle is
5 years

2011 maintenance budget is
\$214K

SDOT Retaining Wall Condition



Stairway Condition Rating



Stairway inspection cycle is 7 years

2011 maintenance budgets totals \$1M



Work Management System

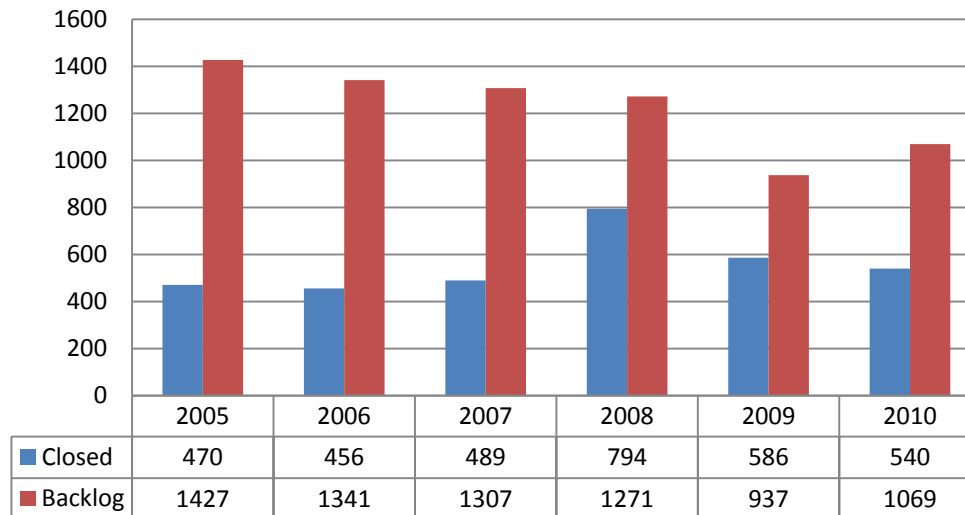
- Inspection notes defects in assets, repair work orders are generated
- Maintenance work plan developed based on highest priority work orders for routine maintenance
- Annual work plans are developed for larger maintenance projects
 - Safety
 - Condition
 - Regional Equity
 - Consistent with Master Plans



Work Order Backlog

- Most years the number of defects noted through inspection exceed the budget for maintenance and repair
- Currently there are more than 1,000 work orders in the backlog, with a total value of over \$6M

Work Order Backlog by Year





Questions?



NE 45th St